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Green HR practices and environmental performance: The mediating mechanism of employee outcomes and moderating role of environmental values

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Scholars focused on behavioral changes in employees rather than depending solely on technology enhancements due to organizations' poor and inefficient environmental performance. The purpose of this research is to observe the influence of green HR practices (GHRP) on work engagement and job satisfaction in the environment and its effect on the environmental performance of universities. Furthermore, the mediating effect of work engagement and job satisfaction and moderating impact of environmental values are explored. The data were collected from 337 officials and faculty members of universities of Pakistan through structured questionnaires. The SPSS process macros results indicate that GHRP significantly impacts environmental performance, job satisfaction, and work engagement. The mediation results reveal that work engagement and job satisfaction acted as a means by which GHRP of universities can positively affect environmental performance. The moderation results reveal that environmental values strengthen the relation of GHRP with environmental performance. The study highlights the significance and importance of GHRP for environmental performance and extends the literature by shedding light on the role of employee outcomes and environmental values.

KEYWORDS

green HR practices, environmental performance, job satisfaction, work engagement, environmental values

Introduction

Due to waste of factories, enterprises, and other institutions, the global environment is polluted (Asghar et al., 2021). There is no proper arrangement to demolish the waste and save the environment (Khan et al., 2022a). Previously, human resource management (HRM) was not effective in saving the environment from harmful waste. The environment of the globe is harmful and damages human beings and other living creatures. Nowadays, organizations shift to a green HRM (GHRM) system. The objective of GHRM is to save the environment and adequately degrade waste. Our universities and educational institutions produce massive waste, including paper, plastics, and environmental waste materials. Education institutions must improve environmental performance by concentrating on developing employees' environmental capabilities and behavior.

Environmental performance studies seem to be the most significant hazard for sustainability in the modern world's mechanical pollution (Xiang et al., 2011). However, existing research highlights that specific drivers and boundaries frequently affect firms eagerly receiving natural hones and accomplishing supportability. The fulfillment of green certifications and appropriation of the environmental controlling system are a few drivers that move forward firms' journey supportability (Jabbour, 2013). Such drivers do not only encourage firms' capacities to meet environmental goals but also emphatically impact their monetary execution (Jacobs et al., 2010). However, many businesses continue to view environmental initiatives as a burden on their potential benefits and rely on quick compliance measures to achieve their objectives (Marcus and Fremeth 2009).

Environmental concerns can be mitigated by advancing the concept of GHRM. HR is critical in communicating optimal management vision to other parties. The management must work together at the corporate center and corporate line to achieve corporate goals. Nevertheless, HRM's role in environmental success is crucial because it directly impacts the execution of these green measures (Paillé et al., 2014). The ability, motivation, and opportunity (AMO) theory led this empirical research by offering a theoretical foundation for how HR practices develop employees' environmental skills and motivation and opportunities for increasing environmental performance (Yu et al., 2020). Green HR methods such as eco-staffing, e-recruiting, and eco-training have been studied extensively in the manufacturing industry (Kim et al., 2019). Two more perspectives on service industries have been discussed in prior literature: those of customers and those held by service workers (Fawehinmi et al., 2020). Research on employee awareness and attitude toward implementing green practices is limited, and there is a need to explore it further. Based on recent calls, the study attempts to inspect the green HR practices (GHRPs) of universities as this sector is yet neglected (Fawehinmi et al., 2020).

However, the GHRP is inadequate for increasing environmental performance (Singh et al., 2020). To fulfill the research gap, there is a need to explore some intervening mechanisms that may further augment environmental performance (Liu et al., 2020). Employee work engagement and job satisfaction may strengthen the relationship between GHRP and environmental performance (Anwar et al., 2020). Work engagement has improved environmental performance (Schaufeli and Bakker, 2010). Sustainability in environmental performance depends on employee behavior (Kim et al., 2019). A person's job satisfaction may negatively or positively impact reliance on the work environment and interpersonal interactions (Khan et al., 2022b). According to Adigun et al. (2017), work satisfaction impacts employee and environmental performance.

In addition, environmental values also increase the link between GHRP and environmental performance. Modern green value literature has emphasized the importance of individual values on the attitudes and behaviors of those who hold them (Davidov et al., 2008). Their eco-friendly behavior is heavily influenced by their care for the environment (Chou, 2014). In the past, researchers have shown a link between personal values and performance in terms of the environment (Schultz et al., 2005; Chou, 2014). Thus, this study also examines the moderating role of environmental values in GHRP and environmental performance.

In context-specific learning, universities integrate environmental administration concepts into their operations, instructional prospectus, research programs, building plans, and other campus activities to recognize their environmental responsibility (Mikulik and Babina, 2009). Environmental statements have affirmed these principles; as a result, their progress toward maintaining their systems continues to be extremely slow (Lozano et al., 2013). Universities have paid relatively less importance to the behavioral components of environmental execution management (Khan et al., 2021). There is minimal exploration of the effects of GHRM on employee performance (Yong et al., 2019).

According to Lozano (2006), many university leaders and staff members are unaware of sustainably oriented development concepts and their execution in universities. They gave less attention into integrating sustainably oriented standards into courses, research, and outreach activities. The professors and other university staff were essential partners in the university setting (Lozano, 2006). Environmental sustainability should be incorporated into the university's framework globally. In reality, this is difficult to achieve in the early phases of integrating environmental sustainability into a university's framework. This can be accomplished by identifying and empowering a few people involved in small projects to exchange their experiences and information. Instructors can also have a multiplying effect on being educated to educate other teachers (Lozano, 2006). Recently, Fichter and Tiemann (2018) identified

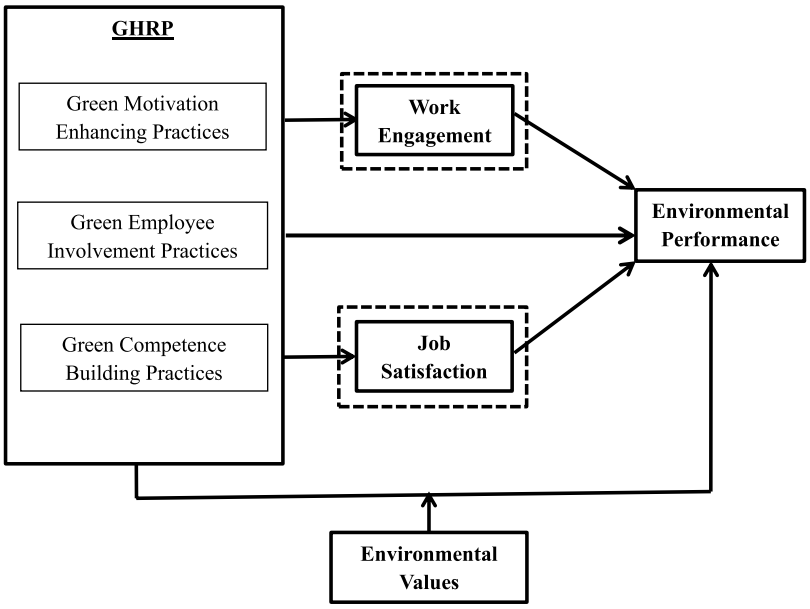

FIGURE 1
Theoretical framework.

key persons in university administration and the workforce as initiators, promoters, and networkers as variables that enable sustainable changes in universities.

Based on AMO theory, the aim of the present study is, thus, to investigate how GHRM plays a critical role in the environment-friendly behavior of employees in higher education institutes, particularly in Pakistan. We aim to test a theoretical framework (Figure 1) empirically. Furthermore, the study examines the mediating mechanism of employee outcomes (work engagement and job satisfaction) and the moderating role of environmental values. More specifically, the study addresses three research questions: first, does GHRP influence environmental performance? Second, does work engagement and job satisfaction mediate the relationship between GHRP and environmental performance? Finally, do environmental values moderate the relation of GHRP with environmental performance?

Literature review

GHRP and environmental performance

GHRP involves three dimensions: first, green competence building; second, green motivation enhancing practice; third, green employee involvement practice. GHRM becomes challenging if firms try to clarify green challenges on an expedient basis. It leads to optimal green performance (Jabbour, 2013). A firm may adopt a technology or other environmental management solutions without making any organizational changes. It is a trend that will only get stronger as employees become more environmentally aware and firms begin implementing workplace policies (Crane et al., 2008). People's behavior, production, and consumption patterns are said to be responsible for around 40% of the problems with the atmosphere (Gan et al., 2008). Previous research has long linked global environmental degradation to economic development and human activity (Kinnear et al., 1974; Grunert 1993; Gan et al., 2008).

People must exhibit certain behaviors and attitudes to perform effectively (Wood 1997; Brownell 2008; Zopiatis 2010). Employees' willingness to engage in green behavior may be influenced by their personal preferences and environmental belief (Pichel, 2008). Employment happiness increases when employees' ethical and environmental ideals align with those of the firm's (Hoffman, 1993; Chou, 2014). Based on the findings, mild persuasion will be more effective than rigorous organizational policies, practices, and regulatory mandates in motivating people to adopt green behaviors (Lillo Banuls et al., 2018). As a result of prior experiences, an individual has acquired green competencies, which include qualifications, education, tacit knowledge, professional information on environmental concerns, and feelings that encourage them to acquire and behave environmentally friendly (Cousins et al., 2008). On the other hand, official education and training/development aid in restoring knowledge and green behavior, allowing individuals to change and display green behavior and attitudes in general (Chou, 2014).

Enabling workers to achieve their goals can increase motivation, resulting in more productive employees, and inspiring workers to achieve their personal and organizational goals by providing them with motivation and engagement (Tariq et al., 2016). The environmental orientation shows how environmental protection organizations work and motivate environmental concerns, which should be part of their strategy (Banerjee et al., 2003). Research reveals that environmental groups can concentrate internally and internationally. An internal environmental organization also concentrates on the extent to which the organization attaches priority to environmental sustainability challenges. GHRP significantly influences environmental performance and leads to greater efficiency, cheaper costs, and increased employee commitment (Kim et al., 2019). Relying on the aforementioned discussion, GHRPs are expected to affect environmental performance.

H1. GHRP positively affects environmental performance

GHRP and work engagement

GHRM practices are helpful in achieving green goals and fostering constructive work conduct (Hobfoll, 2001; Jabbar & Abid, 2015). Organizations integrating GHRM practices can distress employees' performances toward being green (Renwick et al., 2013). Scholars discovered that engagement in green work arises from the support of supervisors and good management of HR, such as green awards and green training (Cantor, et al., 2012). Goodness in GHRM encourages employees to show productive green behaviors and convinces them to come up with fresh ideas and new green solutions (Aboramadan et al., 2020). GHRM may stimulate growth of employees and their career objectives, such as an achievement that promotes the commitment to work between employees (Arasli et al., 2020).

Likewise, Cantor et al. (2012) noted that green work engagement is the consequence of assistance by supervisors and management of HR such as green recompenses and green education. Green work engagement is a significant result of GHRM as such activities are assessed by employees in an organization (Ari et al., 2020). The environment should be considered for a successful business, and specific HRM practices may be established. The present study emphasizes the influence of GHRP on work engagement. GHRP is crucial in sustainable corporate development (Dumont et al., 2016). Environment-friendly GHRP improved efficiency and workplace engagement (Deshwal 2015). This shows that employees are more engaged in the work with GHRM practices. GHRM can, therefore, be viewed at work as a motivating factor with a positive connection to employees' engagement (Schaufeli and Bakker, 2003).

GHRP would help achieve green goals and foster great work habits (Hobfoll, 2001; Jabbar & Abid, 2015). Work engagement is an outcome of supervisors' support and strong HRM practices (Cantor et al., 2012). Excellence in GHRM inspires employees, improves their ability to show optimistic green behaviors, and urges them to develop innovative thinking at the green level (Aboramadan et al., 2020). GHRP also motivates workers (i.e., extrinsically and organically supporting their growth) and increases employee dedication and especially work engagement (Bakker Arnold and Demerouti, 2008).

HR practices should be carefully built by considering the environment for a successful organization. GHRPs are critical to a company's long-term feasibility (Dumont et al., 2016). GHRM improves higher productivity and employee engagement at work (Deshwal 2015). Employees become more devoted and engaged with work when GHRM practices are implemented. According to Dutta (2012), green HR contributes to engagement. Green practices have a good relationship with employee job engagement. Thus, we hypothesized that GHRP influences work engagement.

H2. GHRP positively affects work engagement

Work engagement and environmental performance

Pro-environmental behaviors are based on mutual support by employees for an organization's environmental issues, such as the voluntary exchange of ideas, expertise, and teamwork to identify pollution sources and preventative measures. The understanding and knowledge of employees usually appear to influence an organization's decision-making and intents. Employees often avoid being a part of situations they do not know (Otto & Pensini, 2017). Furthermore, awareness of environmental issues makes individuals socially responsible through support for environmental behaviors and influences the environmental performance of organizations (Zareie and Avimipour, 2016). People with environmental consciousness tend to contribute their part to environmental protection through spending on natural, green, and organic products, recycling, and green activities. Environmental knowledge affects pro-environmental behavior intentions. The person seeking supplementary knowledge appears to participate in environmental behavior (Zareie and Avimipour, 2016). Therefore, work engagement may influence pro-environmental behavior and environmental performance at the workplace.

The scholars examine the impact of green HR policies in manufacturing organizations on environmental performance (Chaudhary, 2019). The literature reveals that reducing waste in GHRP and educating staff on water and energy supply conservation influence environmental performance (Roscoe et al., 2019). Environmental training enhances staff awareness of environmental policy implementation. Green compensation and awards make it easier for employees to reduce excessive use of office material, trash disposal, energy and water preservation,

and light disruption. Sustainability in environmental performance depends on employee behavior (Kim et al., 2019).

The significance of ecological execution is alleged to represent a decent opportunity in a win–win state to improve an organization's sustainability. Green practices can improve implementation and work engagement in businesses (Jackson et al., 2014). Some studies have shown that GHRM and green production are cross-cutting to accomplish environmental performance (Amui et al., 2017). It is also found that GHRM inspires people to perform their job under the umbrella of green practice, which is the best approach to achieving work engagement and improving environmental performance. Therefore, we propose that work engagement affects environmental performance.

H3. Work engagement positively affects environmental performance

GHRP and job satisfaction

Social exchange theory (Blau et al., 1964) explains how employees' opinions of socially accountable HR practices affect their job satisfaction. The 'norm of reciprocity' in social connections is the foundation of the social exchange theory. If an employee receives economic or socio-emotional advantages from HR functions from their employer, then they reciprocate similarly (Blau et al., 1964). Employees consider an organization's HR processes a personalized commitment (Gong et al., 2010). They are obligated to respond positively. HR procedures influence employees' attitudes and actions. Socially responsible HR practices are essential and positively influence commitment (Nishii et al., 2008).

Job satisfaction is critical for companies to acquire a competitive edge in all sectors as employees play a crucial role in corporate success (John et al., 2022). However, there is no broad consensus concerning its description, despite the significance of job satisfaction. Satisfaction with work depends on aspects such as personal, corporate, administrative, academic, and business characteristics.

Psychologists focused on employees' satisfaction with the work investigated. Happiness for employees is improved by increased employee compensation, the assessment system, the promotion plan, and the training and development program (Sharma et al., 2014). The past study focused on the most satisfactory event for employees in the position of staying and leaving the firm and assessing job satisfaction. The survey found that employee happiness and productivity in occupations are even higher than in less difficult ones (Zopiatis, 2010).

Employee well-being and productivity correlate with job satisfaction and staff happiness (Platis et al., 2015). GHRP can encourage employees and increase organizational productivity. According to studies, job satisfaction and employee perceptions of the organization's social responsibility initiatives are positively correlated (Martin and GertRoodt, 2017). Based on the aforementioned discussion, we propose that GHRP influences job satisfaction.

H4. GHRP positively affects job satisfaction

Job satisfaction and environmental performance

The type of work, work environment, and interpersonal interactions can positively or negatively impact a person's job satisfaction (Gibson et al., 2011). It has been shown that employee happiness is higher when there is a healthy workplace and welfare, whereas employee dissatisfaction negatively impacts the organization (Bentley et al., 2013). Work satisfaction impacts both employee performance and job satisfaction (Adigun et al., 2017). Job satisfaction and employee performance have a positive relationship (Platis et al., 2015; Bakotic, 2016).

Performance management is the entire process of managing to increase an organization's productivity and the productivity of each employee and workgroup (Rachman et al., 2020). This helps employees identify and solve work problems (Mackey and Johnson, 2000). Regarding organizational behavior and HRM, job satisfaction is a critical factor. As a result of job satisfaction, workers are more likely to be happy, morale, and motivated (Mabaso & Dlamini, 2017). Workplace pleasure is a deeply felt personal experience and leads to high performance. On the other hand, companies must fulfill their goals.

Employee performance and job satisfaction are correlated. As prior research indicates, there is a positive correlation between job satisfaction for the salary payment system and employee performance (Owusu 2014). Furthermore, Roberts (2008) utilizes five factors to gauge satisfaction: contentment with superiors, coworkers and the work itself, advancement chances, and money. The strength of organizational performance management is its ability to provide results. Performance management is an activity carried out to increase an organization's productivity and the productivity of each employee and workgroup (Rachman et al., 2020). This helps employees identify and solve workplace problems (Mackey and Johnson, 2000).

It is easier for employees who are happy to participate in green initiatives if they feel supported. Those people who are happy in their jobs are more likely to take environmental responsibility seriously, which leads to higher involvement in green initiatives and an overall improvement in environmental performance (Ahmad, 2015). Settled employees are more likely to be interested in their work than dissatisfied employees. In other words, if workers are settled with their jobs, they will be more likely to participate in green initiatives and lessen their environmental impact.

H5. Job satisfaction positively affects environmental performance

Mediating role of work engagement and job satisfaction

It has been demonstrated that work involvement is an essential mechanism of happiness (Aboramadan et al., 2020). Involvement and motivation in the workplace are typically considered to be performance-enhancing factors, thereby enhancing the potential of employees to engage in positive eco-behaviors (in-role or voluntary) and encouraging them to attempt new things that could be developed. According to the social exchange theory, new thoughts, and substitutes on the green level, employees with higher levels of involvement are more likely to engage in quality social exchanges with their company. It is a win–win situation for employees who want to go green (Saks, 2006). Good impressions of GHRM boost employees' green work engagement.

People engage in their work and perform well at their jobs. Individuals' tenacity and intensity in pursuing their task performance should be tied to engagement as it is a motivational notion (Rich et al., 2010). The engaged workers are active participants, feel proficient, and have high ambitions (Albrecht, 2010). Pleasant emotions help people focus on their tasks and attain high levels of individual achievement. These individuals are also sociable and helpful, which enhances the complete effectiveness of those who operate in teams (Bakker Arnold and Demerouti, 2008). Their high level of engagement donates to their well-being and accompanying work capability (Demerouti et al., 2001). Resilience enhances work engagement, which further enhances job performance (Othman et al., 2013; Mache et al., 2014). Extant research highlights that there is a favorable link between work engagement and contextual and task job performance (Schaufeli and Bakker, 2010; Mache et al., 2014).

When workers have an attitude toward their jobs, they are healthier and more satisfied with their lives (Judge & Watanabe, 1993; Faragher et al., 2005). Worker satisfaction has been linked to better relationships with colleagues (Swider et al., 2011), fewer absences (Steel et al., 2002), and a lower likelihood of quitting (Swider et al., 2011). It is also linked to a higher organizational commitment (Judge et al., 2001; Yoon & Thye, 2002). Resistant behavior reduces the negative impact of stress on job satisfaction (Krush et al., 2013). Resilient people can successfully manage their emotions when faced with adversity (Bonanno et al., 2001). Moreover, resilient persons have higher levels of positive emotions than less resilient people when faced with a stressor (Cohn et al., 2009).

Positive feelings about one's employment should allow people to operate more successfully and efficiently for better performance. Conversely, employees who are unhappy with their jobs and spend a lot of time dealing with their negative feelings cannot perform. After experiencing pleasant emotions, one's viewpoint and perception of situations are broadened and more realistic (Fredrickson, 2004). Consequently, this study examines the intervening mechanism of work engagement and job satisfaction between GHRP and environmental performance.

H6. Work engagement mediates the relationship between GHRP and environmental performance

H7. Job satisfaction mediates the relationship between GHRP and environmental performance

Moderating role of environmental values

The literature on green values has stressed the significance of personal values on attitudes and behaviors (Davidov et al., 2008). Their eco-friendly behavior is heavily influenced by their care for the environment (Chou, 2014). In the past, researchers have shown a link between personal values and performance in terms of the environment (Schultz et al., 2005; Chou, 2014). Work behavior is influenced by individuals' beliefs, values, and norms (Stern et al., 1999).

The extant HR behavioral research reveals that one's traits may operate as an amplifier or deterrent to the relationship between HR practices, individual behavior, and organization performance. The individuals' perceptions, values, and needs and the organization's customs, practices, and goals determine the individual's behavior (Paille and Borial, 2013). Employees who are more inclined to be involved in in-role and extra-role maintain ability-related duties and activities if the environmental context is considered (Dumont, et al., 2017). However, regardless of the importance of this topic, the number of studies that indicate the moderating effect of personality factors on GHRM and individual attitudes is still lacking.

Individual green values modulate the link between GHRM practices and psychological green climate (Dumont et al., 2017). On the other hand, people's personalities significantly influence their thoughts, feelings, and behaviors more than their values, which fluctuate with environmental changes (McCrae and Costa, 2003). The individual's values reflect their motivations, not behavior (Roccas et al., 2002).

Personal and organizational characteristics influence employee attitudes toward the organization's environmental values and goals and green behavior (Huertas-Valdivia et al., 2018). In the workplace, positive traits affect vigor and enthusiasm for life (Watson et al., 1988). When people are more optimistic about GHRM practices, they are more likely to cope positively and actively with the organizational environmental demands (Huertas-Valdivia et al., 2018).

Employees' attributes and HRM's green activities encourage energy, vigilance, enthusiasm, and dedication at work. Like a proactive mentality, opportunists, action-takers, and savers are unafraid of situational hurdles (Bateman and Crant, 1993). Additionally, green conduct requires pro-environmental behavior, where employees must go above and beyond statutory organizational behavior requirements and demonstrate ground-breaking behaviors (Yu and Yu, 2017).

Therefore, a better connection between HRM green values and actions and individual positive skills might influence employee participation in environmental projects.

Employees' environmental enthusiasm makes them better workers, positively impacting their performance. In addition, this relationship will be improved if employees place high importance on environmental values. Therefore, the study proposes the following hypothesis:

H8. Environmental values moderate the relationship between GHRP and environmental performance.

Methodology

Population and procedures

The study's target population is employees of both public and private sector universities in the Punjab province of Pakistan. The primary data were gathered using a structured questionnaire. Universities in Pakistan have the same structure, regulations, and culture. Hence, statistics from the Punjab province maybe presumed to reflect the entire population. University employees consist of both teaching and nonteaching officials. By utilizing the convenience sampling technique, 450 questionnaires and cover letters were distributed among respondents of universities in the Punjab province. The researchers initially distributed questionnaires to employees of universities *via* Google forms, emails, WhatsApp, and other social media websites. Finally, the researcher physically visited the respondents in their respective departments and offices. This process continued for almost 2 months, and finally, 337 useable questionnaires were received, which is an actual sample of the study.

Measurement and scales

This study focuses on three GHRPs measured by the 13-item scale of Tang et al. (2017). Environmental performance is measured by utilizing the 12-item scale of Larran Orge et al. (2016). To measure job satisfaction, a 16-item scale developed by Dziuba et al. (2020) is adopted. The 16-item scale measures work engagement by Schaufeli and Bakker (2003). Environmental values are measured using a 7-item scale by Steg et al. (2005) and Stern et al. (1999). Participant's personal information, such as their age, formal education, and work experience, could also influence their counterproductive behavior, perception of justice, and personality traits, so these personal characteristics are used as control variables.

Results

Initially, the data were screened out for missing values and outliers. Data normality is tested through KMO and Bartlett's test. The KMO results 0.936 reveal that data are normal for further analysis.

Descriptive statistics and correlations

The mean and standard deviation values of all variables can be observed in Table 1. The scale reliability is tested through Cronbach's alpha. The results reveal that (Table 1) alpha values of GHRP are 0.90, environmental performance 0.89, work engagement 0.90, job satisfaction 0.90, and environmental values 0.86. All these values are good and within an acceptable range.

The correlation matrix (Table 1) provides the initial support for the proposed hypotheses. Our first hypothesis proposes the relationship between GHRP and environmental performance. The results show that GHRP is positively and significantly correlated with environmental performance (coefficient = 0.705, $p < 0.01$). The second hypothesis states that GHRP positively affects work engagement. The results show that GHRP significantly and positively affects work engagement (coefficient = 0.717, $p < 0.01$). Our third hypothesis is the positive relationship between work engagement and environmental performance. The results proved that there is significant and positive relationship (coefficient = 0.592, $p < 0.01$). The fourth hypothesis is that GHRP positively affects job satisfaction. The results reveal that the relationship between them is significant and positive as the value shows that the coefficient is 0.573, $p < 0.01$. Our fifth hypothesis is the positive association among job satisfaction and environmental performance. The results demonstrate a strong and favorable connection between job satisfaction and environmental performance (coefficient = 0.659, $p < 0.01$).

Process macros results

The researcher used Process Macros Model 5 (Hayes, 2013) to test the hypothesized relations (Table 2). The outcome shows that GHRP has a significant and positive effect on environmental performance ($\beta = 0.887$, $p < 0.01$ [LLCI = -1.207, ULCI = -0.567]). Thus, hypothesis H_1 is supported (Table 2). Furthermore, results reveal that GHRP has a significant and positive effect on work engagement ($\beta = 0.561$, $p < 0.01$ [LLCI = 0.502, ULCI = 0.619]). Thus, H_2 is also fully supported (Table 2). Furthermore, we hypothesized that work engagement has a positive effect on environmental performance. The findings show that work engagement has a significant and positive effect on environmental performance ($\beta = 0.367$, $p < 0.01$ [LLCI = 0.219, ULCI = 0.516]). Therefore, H_3 is supported by our data (Table 2). The results of hypothesis 4 reveal that GHRP has a significant positive effect on job satisfaction ($\beta = 0.494$, $p < 0.01$ [LLCI = 0.417, ULCI = 0.570]). Thus, hypothesis H_4 is supported (Table 2). The results of hypothesis

TABLE 1 Descriptive statistics and correlation matrix.

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Gender	0.64	0.48	1							
2. Education	17.64	1.77	-0.194**	1						
3. Tenure of Job	8.84	6.96	0.255**	-0.360**	1					
4. GHRP	3.89	0.69	-0.106	0.117*	-0.003	(0.90)				
5. EP	3.96	0.71	-0.061	0.067	0.016	0.705**	(0.89)			
6. WE	4.16	0.54	-0.124*	0.143**	-0.055	0.717**	0.592**	(0.90)		
7. JS	4.14	0.60	-0.132*	0.158**	-0.050	0.573**	0.659**	0.610**	(0.90)	
8. EV	4.19	0.66	-0.123*	0.132*	-0.065	0.577**	0.422**	0.722**	0.556**	(0.86)

Notes: GHRP, Green HR practices; EP, environmental performance; WE, work engagement; JS, job satisfaction; EV, environmental values, alpha values along diagonal in parenthesis.

TABLE 2 Process macros results.

Hypothesis	Path	Direct effect			Indirect effect		
		Beta	LLCI	ULCI	Beta	LLCI	ULCI
H1	GHRP EP	0.887**	-1.207	-0.567			
H2	GHRP WE	0.561**	0.502	0.619			
H3	WE EP	0.367**	0219	0.516			
H4	GHRP JS	0.494**	0.417	0.570			
H5	JS EP	0.382**	0.279	0.486			
H6	GHRP EP *via* WE				0.206	0.092	0.336
H7	GHRP EP *via* JS				0.189	0.104	0.283
H8	Int. effect of EV	0.352***	0.280	0.424			

Notes: GHRP, Green HR practices; EP, environmental performance; WE, work engagement; JS, job satisfaction; EV, environmental values; **$p < 0.01$.

5 state that job satisfaction has a significant positive effect on environmental performance (β = 0.382, $p < 0.01$ [LLCI = 0.279, ULCI = 0.486]), so hypothesis H_5 is fully supported (Table 2).

Moreover, an indirect effect of work engagement and job satisfaction between GHRP and environmental performance is tested. The results of hypotheses H_6 and H_7 again supported the mediating mechanism of work engagement and job satisfaction between GHRP and environmental performance (β = 0.206, $p < 0.01$ [LLCI = 0.092, ULCI = 0.336]) (β = 0.189, $p < 0.01$ [LLCI = 0.104, ULCI = 0.283]). It can be observed that both upper level and lower level of confidence intervals are positive. Thus, hypotheses H_6 and H_7 are fully supported by our data (Table 2).

Hypothesis H_8 shows that environmental values moderate the relationship between GHRP and environmental performance. The positive effect of GHRP on environmental performance is strengthened when environmental values are high (β = 0.352, $p < 0.01$ [LLCI = 0.280, ULCI = 0.424]). Therefore, hypothesis H_8 is also supported (Table 2). The moderating effect of environmental values is plotted in Figure 2.

Discussion

The current research investigated the effect of GHRP on environmental performance in universities in Pakistan. Based on the AMO theory, we investigated how GHRP, work engagement, job satisfaction, and environmental values increase the environmental performance of the universities. This study also aims to investigate the role of job satisfaction and work engagement as mediators between GHRP and environmental performance. Moreover, it is found that environmental values moderate the relation of GHRP with environmental performance. The results validate the proposed model.

We examined the impact of GHRP on environmental performance. Findings show that GHRP positively influences the employees' environmental performance. This finding is in line with the recent results of Ari et al. (2020). This study investigated the impact of GHRP on work engagement. We tested the effect of GHRP on job satisfaction. The empirical evidence shows a significant influence of GHRP on job satisfaction. This indicates that GHRP significantly influences

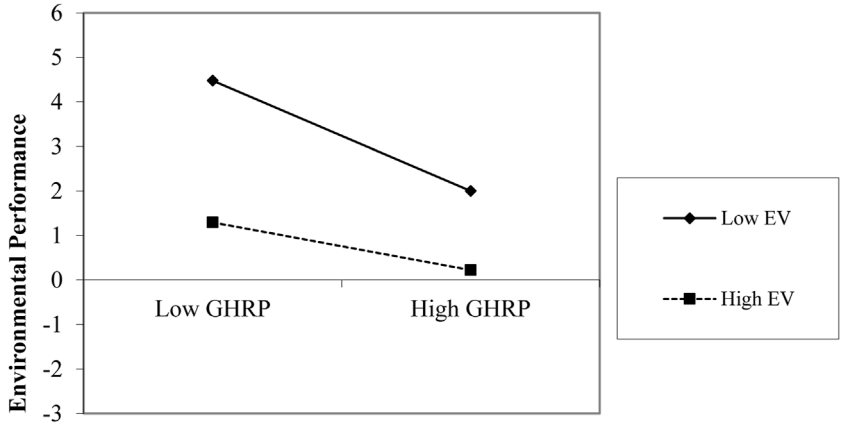

FIGURE 2
Moderation effect of environmental values.

the job satisfaction of the employees of the universities. Recent research also suggests a positive impact of GHRP on job satisfaction. Therefore, GHRP adopted by educational institutes can improve employees' job satisfaction.

The intervening effect of work engagement is also examined. The empirical evidence reveals that work engagement mediates the relationship between GHRP and environmental performance. This result is as per the theoretical foundation and novel findings of the study. We tested the effect of GHRP on environmental performance through job satisfaction. Empirical evidence from the study shows that job satisfaction plays an intervening role between GHRP and environmental performance. Our study found that the environmental performance level enhances when job satisfaction exists between GHRP and environmental performance.

The effect of work engagement and job satisfaction on environmental performance is also examined. The findings show that work engagement has a favorable, significant, and desirable effect on environmental performance. As a result of their work engagement, the environmental performance of the universities was enhanced. Therefore, work engagement is very important to achieve and increase environmental performance (Hanaysha, 2016). The findings also suggest that job satisfaction influences environmental performance. When workers are not happy with their jobs, they would not be able to utilize their complete energy to get better outcomes. When employees were happy with their jobs, the environmental performance increased. Finally, the moderation effect of environmental values is also examined. The results demonstrate that there is a strong relationship between environmental performance and GHRP. Environmental values are shown to improve the link of green HR strategies with environmental performance.

In various areas, this study extends to the emerging literature on green HR. First, it investigates the interrelationship among GHRP, work engagement, job satisfaction, and environmental performance. Second, it achieves the current research gap by examining the intervening mechanism of work engagement and job satisfaction among GHRP and environmental performance. Third, it enhances the literature by testing the moderation of environmental values among GHRP and environmental performance. Finally, this study targets higher education institutions, a sector where empirical literature is scarcely available.

Implications

Theoretically, by improving knowledge about green management, this study extends the body of literature, which became a global issue in the last few years. According to scholars, GHRP can help the organization meet its environmental goals. Slight attention has been given to find out how GHRP and environmental performance are linked. When employees are well-trained in how to implement environmental initiatives, they seem to be more likely to go above and beyond their job responsibilities to help their company be more environmentally friendly. Furthermore, this study provides empirical evidence in view of the theoretical lens of AMO.

Practically, this study is helpful for practitioners and higher authorities of the universities to increase their environmental performance by providing job satisfaction and work engagement to their employees. Higher authorities of HR departments may implement this research for the recruitment and selection process for new intakes. Authorities prefer to select and recruit vigilant and environment-conscious candidates. This study is also helpful for managers to save resources and shield the environment by reducing the use of environmental waste materials (e.g., papers, plastics, etc.). According to this research, the contribution of

various GHRPs to work engagement and job satisfaction may be quantified and communicated to university stakeholders. The study's findings will aid university administrators in developing HR practices that cheer students and faculty to adopt pro-environmental attitudes and behaviors. A university's environmental attitude might be emphasized through green recruitment practices to attract applicants with an environmental mindset.

Limitations and research directions

Apart from significant contributions, there are some limitations. The first limitation is that data are collected from the employees of the universities. In future, other sectors may also be targeted. Second, this study focuses only on three GHRPs. Future studies can use other GHRPs such as career planning, compensation, and performance appraisal. Third, we have examined the combined effect of all three practices; in future, the impact of each HR practice may be investigated on other variables. Fourth, this study investigated the mediating effect of work engagement and job satisfaction to understand the relationship between GHRP and environmental performance. Future research may focus on other mediating mechanisms such as employee motivation and performance. Finally, this study tested the moderating effect of environmental values among GHRP and environmental performance. Future studies may focus on other moderating mechanisms, such as the green experience.

Conclusion

Higher education institutions have acknowledged that failing to address human or behavioral aspects in their environmental endeavors would result in ineffective environmental performance. However, there is a dearth of research to direct the effective use of behavioral treatments in executing university environmental policies. Generally speaking, this study's objective was to link GHRP with the environmental performance of universities. Universities are known as leaders of knowledge creation, and the recent study addressed the idea of GHRP as enhancing motivation, the ability to build an opportunity to provide the practices which have the potential to influence employee's work engagement and job satisfaction. Findings illustrate the favorable effects of GHRP, work engagement, and job satisfaction on environmental performance. The findings provide fruitful results for policymakers to consider work engagement, job satisfaction, and environmental values for employees to demonstrate such behaviors that increase environmental performance. This study also offers recommendations for setting up GHRM policies at the organizational level to make their human capital ecologically responsible and increase employee knowledge of the need to protect natural resources like water and electricity.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

Muhammad Adeel wrote the initial draft of the manuscript. Shahid Mahmood analyzed the data and supervised the project, Kanwal Iqbal Khan helped in data collection and final write-up, Saima Saleem re-reviewed the overall manuscript and helped in handling review reports.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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